

Post-doc Offer

Subject

Study of new international biodiversity indicators based on phylogenetic originality and the probability of extinction of species: identification of HEDGE and LEDGE species

To select species of interest for which a conservation priority might be given, it has been suggested to give priority to phylogenetically original species, assuming that the phylogenetically original species have rare biological characteristics. For example, in France, the National Biodiversity Observatory (ONB) has included in recent years the indicator "International responsibility of France for the most original species". The post-doctoral researcher will study two complementary indices: the HEDGE (Steel et al. 2007) and LEDGE (Faith 2015) indices. For a species i of a group of species (e.g. mammals), these indices estimate the difference between the expectation of the phylogenetic diversity of the group after a given period of time (e.g. 50 or 100 years) taking into account the probability of extinction of species i and this same expectation if the probability of extinction of species i was zero (HEDGE $_i$, Steel et al., 2007) or maximum (LEDGE $_i$, Faith 2015). Species with high values of the HEDGE index are thus threatened species contributing greatly to phylogenetic diversity. LEDGE species are currently non-threatened but contribute to phylogenetic diversity as all other species in their lineages are extinct or have a high probability of extinction.

The objective of this post-doctorate is the identification and study of HEDGE and LEDGE species in mammals, birds, amphibians. He/she will identify the 100 species with the highest HEDGE and LEDGE values. He/she will study the characteristics of these species (phylogenetic position, spatial distribution, geographical determinants) in order to understand their origin. The expected results are both fundamental and applied.

Location: UMR CNRS UPMC 7204 Centre d'Ecologie et des Sciences de la Conservation, 43/61 rue Buffon, & UMR BOREA CNRS 7208, UPMC, IRD 207, UCN, UA, Muséum National d'Histoire Naturelle (MNHN), Paris, France

Supervisors: Sandrine Pavoine (Associate Professor MNHN - UMR CNRS 7204, UPMC CESCO)

and Boris Leroy (Associate Professor MNHN – UMR Biologie des Organismes et des Ecosystèmes Aquatiques MNHN, CNRS 7208, UPMC, IRD 207, UCN, UA)

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Funders: Labex « Diversités biologiques et culturelles : origines, évolution, interactions, devenir » (BCDiv; MNHN-CNRS-UPMC-IRD-EPHE).

Salary will be commensurate with the experience of the candidate. For a first job after PhD, this offer is for a **24 months full-time position** with a net salary of ~2250euros. For senior researchers applying to this position, the salary will be higher; the duration of the contract may be reduced in proportion to the salary overrun. Funds are already secured for the whole duration of the contract.

Starting date: 01/09/2017 (flexible)

Collaborations: Roseli Pellens (MNHN, Paris), Simon Veron (MNHN, Paris), Daniel Faith (Australian Museum, Sidney)

Applications: The candidate must hold a **PhD diploma** in Ecology, Evolutionary biology and/or Conservation biology. Good knowledge of the R environment is required. Good level in **English language** is a prerequisite. French language is not a prerequisite.

Applications have to be sent as a single pdf by email by May 7th 2017 midnight (Paris time) to both Sandrine Pavoine: sandrine.pavoine@mnhn.fr and Boris Leroy: boris.leroy@mnhn.fr. The application will include a detailed CV, a motivation letter, name and contact information of at least two reference researchers (if possible, with letters from them), a copy of the PhD diploma. Candidates will be selected for an **oral presentation** end of May. All charges related to the trip to the oral examination will be taken in charge by our project. Videoconference media can be used for this audition.